



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,288	07/07/2000	Kenichiro Sakai	826.1611/JDH	8400
21171	7590	03/31/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			WU, JINGGE	
			ART UNIT	PAPER NUMBER
			2623	7
DATE MAILED: 03/31/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/612,288

Applicant(s)

SAKAI ET AL

Examiner

Jingge Wu

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.  
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☐ Claim(s) 1-18 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

***Response to Amendment***

1. Applicants' response to the last Office Action, filed January 20, 2004 has been entered and made of record.

***Remarks***

2. Applicant's arguments with respect to claims 1-17 have been fully considered, but they are not persuasive.

a. Applicant argues that "Spliz does not determine the reading orientation of text in addition to determining the orientation." (emphasis added by the Examiner), and "Spliz is not directed line and text orientation or reading direction."

Examiner disagrees. However, in response to applicant's argument, Examiner would like to point out that claim language is given its broadest reasonable interpretation. The specification is not measure of invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art. *Ir re Sporck*, 55CCPA 743, 386 F. 2d 924, 155 USPQ 687 (1968). In the instant case, Spliz clearly and expressly teaches that "The text orientation determination means 46 determines the "line" direction is horizontal (or portrait) or whether it is vertical (or landscape)." (col. 6 lines 16-27). This language is a paraphrase of the claimed language in the independent claim. In addition, Spliz further teaches the character orientation detection (fig. 4a-ac, col. 9 lines 22-42). Furthermore, the claim language calls for "a line orientation determining unit determining whether a line orientation of an input document image is either vertical or horizontal". There is no word "reading orientation" in the claim, and limitations contained therein can not be read into the claims for the purpose of avoiding Spliz. Finally, Spliz also expressly teaches correcting

the orientation based on the line orientation, i., text line orientation (Fig. 9, col. 13 lines 33-47).

b. Applicant further argues that Takaoka, Yokoyama, , and Muir (cited by the Examiner for secondary references for the independent claims and other dependent claims) add nothing for the deficiency of the primary reference Spliz, thus, "the invention of independent claims distinguish over the prior arts." (emphasis by the Examiner).

Examiner disagrees. As the section A discussed, Spliz expressly teaches most limitations in the claim language (here, again, we have to emphases that the invention is not legally equal to the claim). All mentioned secondary references are cited for specific features of the claims in order to overcome the deficiency of the primary reference Spliz. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the schemes of Takaoka, Muir and Yokoyama in the device of Spitz in order to accurately determine the orientation of the document image (Takaoka, col. 1-col.2, Yokoyama, col. 14 line 53-col. 15 line 52, ) or accurately determine the language of the document image so as to accurately recognize the characters (Muir, col. 1 line 23-col. 2 line 26).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by US 5506918 to Ishitani.

As to claim 18, Ishitani discloses a method, comprising:

detecting an actual orientation (skew detection) of a document by determining a line orientation of a line of text and determining a text reading orientation (fig. 5) in the line responsive to the line orientation (fig. 4-5, col. 6 lines 49-59); and orienting the document into a reading orientation responsive to the actual orientation (fig. 1, 32, col. 4 lines 46-50, col. 9, lines 30-35).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, and 4-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US5513304 to Spitz (a reference of record) in view of US 6295385 to Takaoka et al. and US 5381163 to Yokoyama et al. (references of record).

As to claim 1, Spitz discloses a document image correcting device correcting an input document image to be a properly oriented image, comprising:

a line orientation determining unit determining whether a line orientation of an input document image is either vertical or horizontal (Fig. 1, element 44 and 46, col. 6 line 16-col. 7 line 7);

a character image extracting unit extracting a character image from the input document image (Fig. 1 element 38, col. 13, lines 21-31);

a character orientation detecting unit detecting whether or not to require a rotation, a rotation angle if the rotation is required, which are intended for correcting the

character image extracted to be properly oriented, in corresponding with the result of line orientation determining unit (Fig. 1 element 42, Fig. 2a-2b and Fig. 4a-4b, col. 9 lines 22-42); and

a document image correcting unit correcting the input document image to be a properly orientated document image based on a result of detection made by the character orientation detection unit (Fig. 1, Fig. 2a-2b, Fig. 4a-4b, Fig. 9, S140-160, col. 7 lines 8-23, col. 9 lines 22-42, col. 13, 33-47).

Spitz does not explicitly mention mirror image flipping which is well known in the art.

Takaoka, in an analogous environment, discloses a orientation determining function by rotating character mirror image and recognizing the character (Fig. 12c, col. 10, lines 21-67).

Furthermore, Yokoyama, in an analogous environment, discloses flipping character mirror image and recognizing the character (Fig. 56A-B, col. 28, line 59-col. 30 line 64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the schemes of Takaoka and Yokoyama in the device of Spitz in order to accurately determine the orientation of the document image (Takaoka, col. 1-col.2, Yokoyama, col. 14 line 53-col. 15 line 52).

As to claim 2, the combination of Spitz, Takaoka and Tokoyama further discloses rotating character image or by flipping the mirror image (Tokoyama, Fig. 56A-B, col. 28, line 59-col. 30 line 64);

a character recognition unit performing character recognition (Takaoka, col. 9 line 63-col. 10 line 19) and output a character code and likelihood of the recognition (Takaoka, col. 10 lines 20-67); and

detecting whether or not to require the rotation, the angle of the rotation, and the mirror image flipping, which are intended for correcting the character image(Tokoyama, Fig. 56A-B, col. 28, line 59-col. 30 line 64).

As to claims 4-5, the combination of Spitz and Takaoka does not explicitly mention the ratio of black pixel and aspect ration of the character.

Examiner takes Official Notice that these features are notoriously well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ratio of black pixel and aspect ratio of the character in the device of Spitz in order to accurately determine the orientation of the document image.

As to claims 6-8, all limitation are addressed with regard to claims 1-2.

As to claim 9, Spitz discloses a line image extraction unit extract whole or part of a line from an input image as a line image (Fig. 3b-3c). Other limitations are addressed with regard to claim 1.

As to claims 10-13, all limitations are addressed with regard to 9, and 6-8.

As to claims 15-17, all limitations are addressed with regard to claims 1-2, and 6-8.

As to claim 14, Spitz discloses a limitation of the character orientation detecting unit excluding some of a plurality of patterns (word spaces) the include a pattern of the character image within the input document image (col. 11-col. 12). Other limitations are addressed with regard to claim 1.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Spitz , Takaoka and Yokoyama, further in view of US 6064767 to Muir et al. (a reference of record).

As to claim 3, the combination of Spitz , Takaoka and Yokoyama discloses other limitations (see claims 1-2) but does not mention language identification.

Muir, in an analogous environment, discloses a language identification system to identify the language of input document image (Figs. 1-2, abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Muir in the device of Spitz in order to accurately determine the language of the document image so as to accurately recognize the characters (Muir, col. 1 line 23-col. 2 line 26).

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

9. Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner

